

# M&S Strategic Initiatives to Support Test & Evaluation



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# DoD Test & Evaluation



- **Determine what needs to be tested**

- Developmental Testing
- Operational Testing
- Live-Fire Testing
- Suitability Testing
- Lethality Testing
- Interoperability Testing

- **Determine what resources are available to support the tests**

- Models and Simulations
- Measurement Facilities
- System Integration Laboratories
- Hardware-in-the-loop Laboratories
- Installed Test Facilities
- Open-Air Ranges

## OSD Tri-Chairs

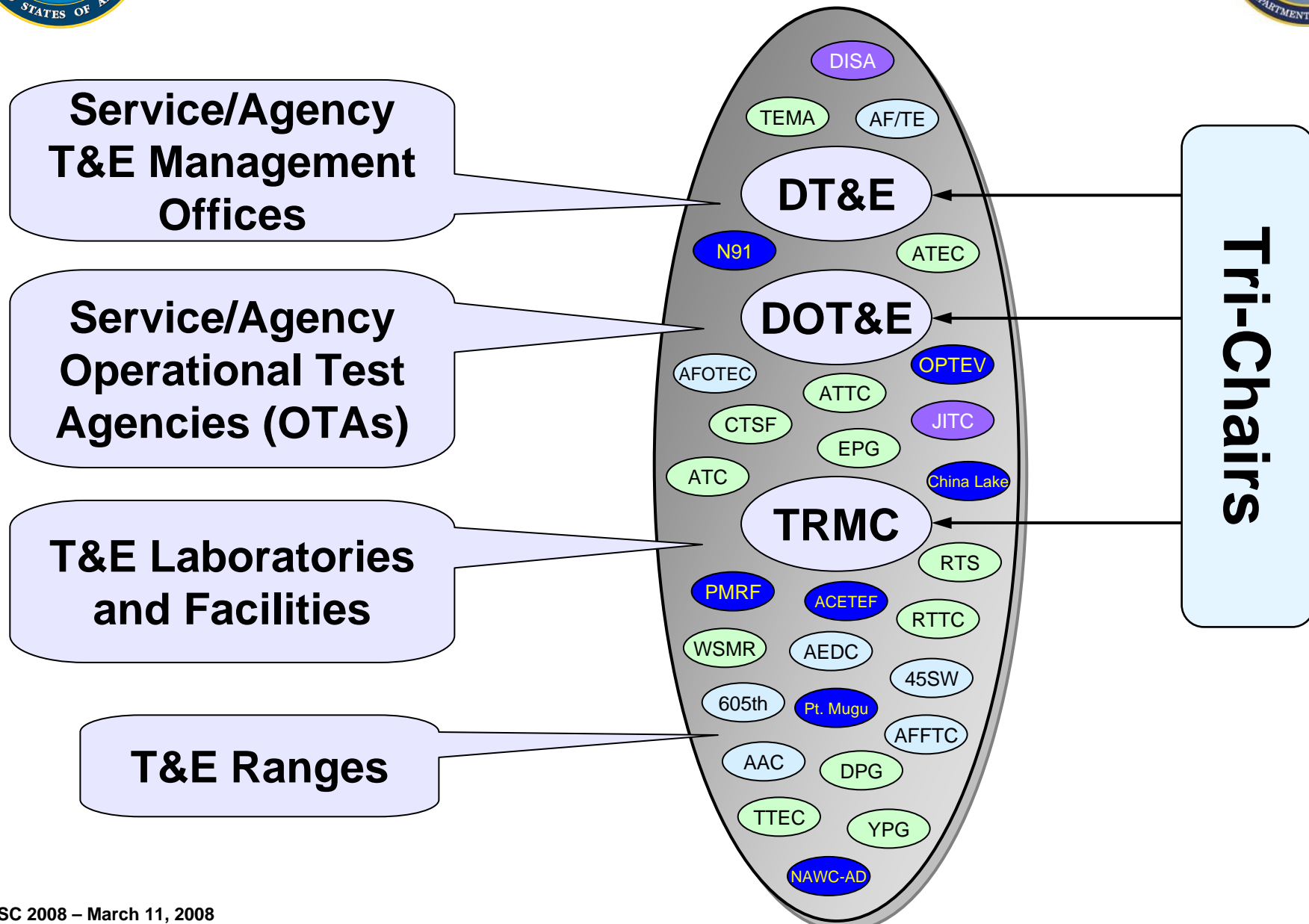
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# DoD Test & Evaluation M&S Surfboard





# Why M&S is Important to T&E

- **M&S can optimize all phases of testing**

- Developmental Testing
- Operational Testing
- Interoperability Certification

- **M&S can support test planning**

- Focus live testing on critical areas – investigate the “edges of the envelope”
- Extrapolate system performance in conditions limited by safety, environmental, or treaty constraints
- Improve locating instrumentation to maximize data collection during live tests

- **M&S can augment live testing**

- Serve as a surrogate for other systems needed for interaction
- Represent additional threats or other stimuli

***M&S supports T&E***



# What the T&E Community Needs

- **Validated Models**

- Validated system models need to be developed during Acquisition
- Policy must be strengthen and better enforced
- Beneficial to other communities beyond T&E
- In addition, validated models of threat systems and of all aspects of the environment must also be available

- **Standards**

- More than what the T&E community can fix alone
- Policy must be strengthen and better enforced
- Beneficial to other communities beyond T&E

***Maximize effectiveness of M&S for T&E***



# What the T&E Community Needs (continued)



- **Capability to Link Simulations at Different Locations**
  - Required to support acquisition of Joint system of systems
  - Required to conducting distributed LVC testing
  - Corporate approach needed to mitigate duplicative solutions

***To address this need, OSD established the Joint Mission Environment Test Capability (JMETC) program in FY07 under the TRMC***



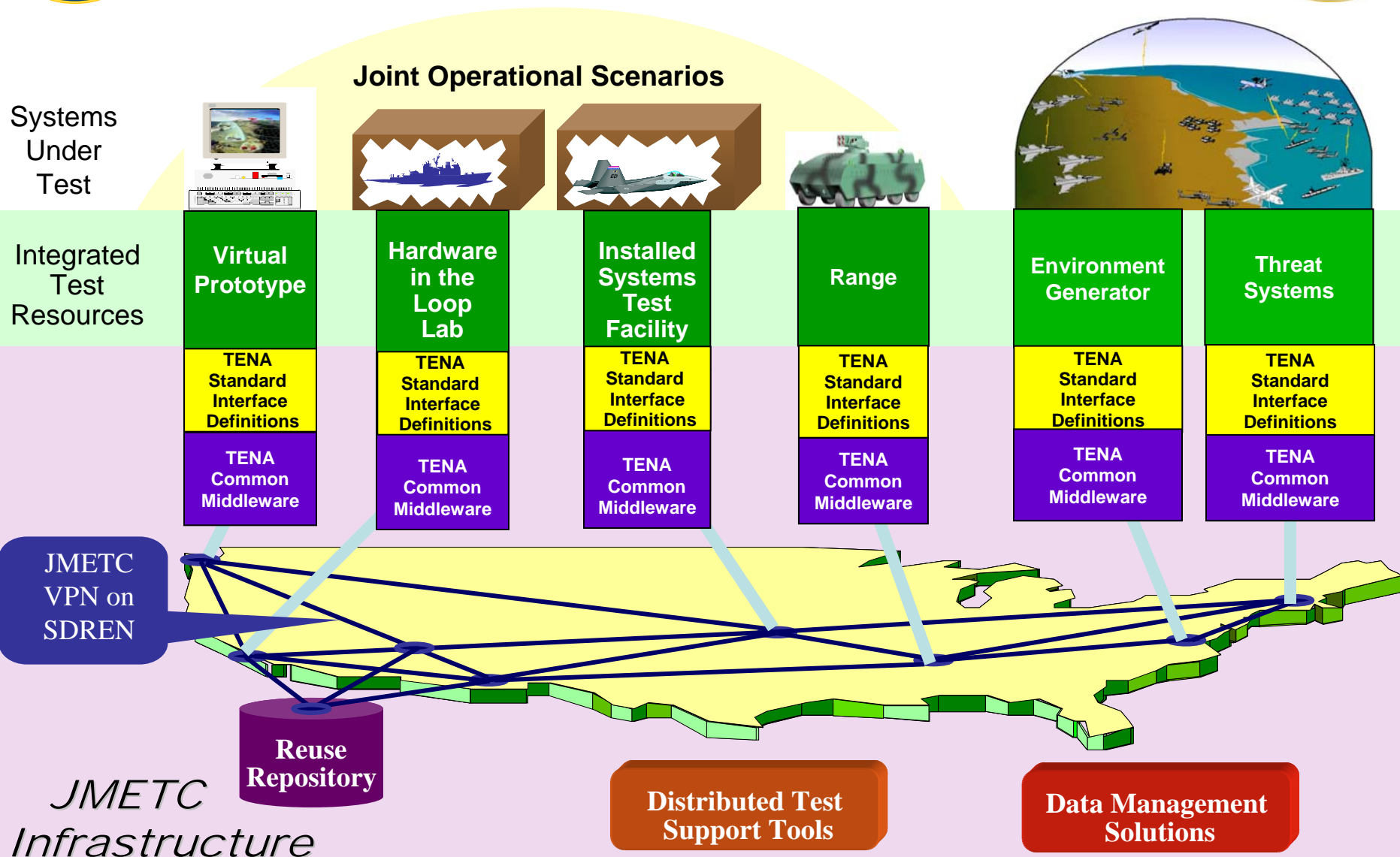
# What is JMETC?

- **A corporate approach for linking distributed facilities**
  - Enables customers to efficiently evaluate their warfighting capabilities in a joint context
  - Provides compatibility between test and training
- **A core, reusable, and easily reconfigurable infrastructure**
  - Consists of the following products:
    - Persistent connectivity
    - Middleware
    - Standard interface definitions and software algorithms
    - Distributed test support tools
    - Data management solutions
    - Reuse repository
- **Provides customer support team for JMETC products and distributed testing**





# JMETC Infrastructure





# JMETC Status

- **Program Office:** Established (Oct 2006) and in operation
- **Connectivity:** JMETC VPN stood up based upon user needs
  - 8 current sites – expanding to 26 sites to address needs for upcoming test events
  - Site connections persistent to foster reuse in future test events
- **Test Events Supported**
  - JFCOM Joint Close-Air Support (JCAS) assessment (Aug 07)
  - JTEM (NLOS NEW) evaluation of new Joint test methodologies (Aug 07)
  - Warplan-Warfighter Forwarder (WWF) test of new C2 capability (Aug 07)
  - InterTEC Spiral 2, Build 1 (Sep 07)
- **Upcoming Tests**
  - Single Integrated Air Picture (SIAP) events
  - Joint Battlespace Dynamic Deconfliction (JBD2) – FCS CTO & JTEM events
  - InterTEC and CVN-21 events
  - Planning for future events for: SIAP, JSF, MMA, NECC, DD1000
- **Stakeholder Support Groups**
  - JMETC Advisory Group
  - JMETC Users Group



# Benefits of M&S in T&E Summary



- M&S is important to DoD Test and Evaluation
- Challenges exist to maximize the effectiveness of M&S for T&E
  - Continue working across the T&E community and with other communities to address these challenges
- JMETC is up and running